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FOREWORD

- **Copyright**

© All copies are retained by the manufacturer.

- **Caution**

This operating manual was written and prepared in accordance with the MDD93/42/EEC council directive for medical devices and their harmonized standards.

For any modifications and improvements, the information in this document is subject to change without notice.

This operation manual includes special documents that are under the protection of copyright law.

All rights reserved. Without written announcement from our company, the user manual may not be transferred, copied or translated into other languages.

Our company shall not be liable for incidental or consequential damages in connection with the furnishing, performance or use of these materials.

- **Manufacturer's Responsibility**

The manufacturer only considers itself responsible for any effects on the safety, reliability and performance of the equipment if:

Assembly, expansion, readjustment, modification or repair operations are carried out by persons authorized by the manufacturer, and the relevant room electrical installations are prepared according to national standards, and the documents are used in accordance with the instructions for use.

If necessary, we can provide the necessary circuit diagrams and other documents to assist qualified technicians to maintain and

repair the device.

- **Warranty**

The unit cannot be repaired by the user. All services must be performed by technicians approved by the manufacturer. We warrant that each product is free from defects in labor and materials and shall conform to its product specifications as defined in the user documentation. If the product does not perform as guaranteed during the warranty period, we will repair or replace it free of charge. Misuse, improper maintenance can void warranty.

- **Expalanation**



: The label refers to the operating instructions.

NOTE : Provides useful information about a function or procedure.

- **Warning**

⚠WARNING ⚠: The label advises against certain actions or situations that could result in injury or death.

⚠WARNING ⚠: The label suggests actions or situations that could damage the equipment, generate inaccurate data, or cancel the procedure.

OVERVIEW

SURGICAL LAMP MOL-02

(2 LAMPS + CAMERA + MONITOR)



Can be applied to:

- General abdominal surgery
- Gynecological procedures
- Operations on the heart, blood vessels, or chest
- Neurosurgical procedures
- Orthopedic processes
- Emergencies or traumatology procedures
- Urological surgery or TURP
- Procedures on the ears, nose, throat, or eyes
- Endoscopy and angiography

CHAPTER 1

Technical Specifications of Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor)

1.1 Normal working environment

Operating environment

- a) Temperature : 15 ~ 30°C
- b) Relative humidity : 40% ~ 60 %RH
- c) Atmospheric pressure : 860 ~ 1060 hpa

Storage and Transfer

- a) Ambient temperature : 15 ~ 30°C
- b) Relative humidity : 40% ~ 60 %RH
- c) Atmospheric pressure : 500 ~ 1060 hpa

1.2 Complete Specifications for Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor)

1.2.1 Monitor Specifications

Unit Specifications	27 Inch (2560 x 1440 Pixels)
Heavy	± 9.5 kg
Power Input	12 VDC 5A
Quality	FHD Monitor and Camera
Support Connector	HDMI, USB, Audio Jack

1.2.2 Unit Specifications Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor)

Model		MOL-02 (2 Lamps + Camera + Monitor)
Material		Aluminum alloy and PC
Heavy		± 89 Kg
Power		± 218W
Age of Use		30000 jam
Accessories		DVR dan Mouse
Unit Dimensions	widest	± 3930 mm
	Stand by	±1900 mm
Dimension L	Small Lamps	(Ø) 700 mm X (H) 165 mm
	Big Lights	(Ø) 700 mm X (H) 165 mm
Power Supplies	Monitors	12 VDC
	Big Lights 1	36 VDC
	Big Lights 2	36 VDC
LED quantity	Big Lights 1	120 pcs
	Big Lights 2	120 pcs
Radiation Luminance Ratio	Big Lights 1	± 439 mW/m ²
	Big Lights 2	± 439 mW/m ²
Color Temperature	Big Lights 1	3500-5000K
	Big Lights 2	3500-5000K
Light intensity	Big Lights 1	>120.000 Lux (100 Cm)
	Big Lights 2	>120.000 Lux (100 Cm)
Light Spot Diameter	Big Lights 1	300 mm (1m)
	Big Lights 2	300 mm (1m)
Lighting Depth	Big Lights 1	130 mm
	Big Lights 2	130 mm

Color Rendering Index (Ra)	Big Lights 1	Ra:96,6; R9:86; R13:97: R14:97
	Big Lights 2	Ra:96,6; R9:86; R13:97: R14:97
Normal Usage Conditions	Temperature	15~30°C
	Relative Humidity	40%~60% RH
	Atmospheric Pressure	860~1060 hpa
Transportation and Storage	Temperature	15~30°C
	Relative Humidity	40%~60% RH
	Atmospheric Pressure	500~1060 hpa

1.3 Camera Capability

1. Equipped with an integrated camera system, eliminating the need for additional support structures.
2. This operating lighting system is capable of capturing and presenting images high quality quickly. With 10X optical zoom capability, the images can be accessed from a comprehensive range of viewpoints.
3. By using Touch Screen technology in the Control section to make it easier



for users to adjust the desired brightness

1.4 Monitoring System

2. By live-streaming surgical procedures, Operation Light (2 Lampss + Camera) facilitates real-time observation by clinic staff, ensuring smooth monitoring in a sterile environment.
3. This operating light, complete with integrated camera and monitor, provides a bird's-eye view of the surgical field, allowing the surgical team to share procedure insights globally.

CHAPTER 2

Warning Security and Maintenance

2.1 Security

1. Tool it is recommended to use it or by experts .
2. Read this manual carefully before operating the unit, and operate the tool according to the operating standards.
3. The unit needs to be cleaned after use.
4. Cleaning needs to be done once a day.
5. Should not be used for anesthetic processes and use of thick liquids.
6. Please turn off the unit and disconnect the power supply cable before cleaning and wiping dry.
7. Turn off the unit first before taking corrective action.
8. Keep the unit away from fire

2.2 Maintenance

1. Under normal circumstances, please use this device according to the instructions listed in the Instructions for Use. If this device

experiences problems, please contact our customer service. The company maintains sales records and customer files for each unit that is guaranteed service for two years from the date of initial purchase, depending on condition and time of purchase.

2. Even during the free maintenance period, we charge for repairs for the following reasons:

- 2.1 Damage resulting from use outside the instructions for use of the device (for example, damage due to impacts, falls, or other errors; device malfunction due to contact with water or other errors).

- 2.2 Damage that occurs after the buyer leaves the purchase location and the device falls.

- 2.3 Damage resulting from preparation, modification, decomposition and other actions that are not in accordance with our company standards.

- 2.4 Damage caused by natural disasters, such as fire, flood, earthquake, and the like.

- 2.5 Damage caused by significant electrical voltage fluctuations beyond the standard limits of the device.

3. During the warranty period, replacement parts will be provided free of charge for two years, except for the power cable, user instructions and packing costs.

4. Free maintenance service will be canceled if our protective seal is found to be broken.

5. For maintenance costs beyond the warranty period, we recommend customers to continue using the "Regular Maintenance Contact" service.

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6. Read this user manual carefully before operating to ensure the unit can be used safely and effectively.
 7. Installation and maintenance of the appliance must be carried out following these instructions for use.
 8. This unit should be placed on a flat surface. Put it in a bright place when it will be moved. Avoid excessive vibration and shock.
 9. AC frequency and voltage rating must be according to requirements, and have sufficient current capacity.
 10. Please place this unit in a place where it is easy to ground.
 11. All equipment, whether it is installed properly and correctly and in accordance with the place.

2.3 Grounding :

1. Connect the unit to a grounding and mains outlet via a three-way power cord (three-wire plug). The three-wire plug must be properly inserted into the three-wire cable outlet.
2. If no 3 wire electrical connection is available, the presence of a qualified electrician is required to install a unit according to the guidelines set by KONSUIL or AKLI in Indonesia.
3. Under no circumstances remove the grounding conductor from the mains plug.
4. Do not use any type of extension cable or adapter. The power cord and socket must be intact and undamaged.
5. Do not use drain pipes and other things as grounding.

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6. Proper grounding can guarantee safety and protect against AC power interference and electromagnetic waves.

2.4 Electrical Connection to Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor):

1. Make sure the AC power supply meets specifications.
2. Connect the power cable/steaker from the unit to a socket that has been properly and correctly grounded.
3. Make sure the power indicator light on the unit is on.
4. If the power cable is not connected properly before operating the unit, there is a possibility that the unit will not work properly due to inefficient power input.

CHAPTER 3

Brief Instructions Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor)

3.1 Brief Instructions for Using Surgical Lamp Mol-02 (2 Lamps + Camera + Monitor)

1. Connect the power to a power source
2. Press the ON button to turn on the Operating Light Unit
3. Place the Operation Lamps in the desired position
4. Focus the LED beam on the patient/object
5. Set the lighting buttons as desired
6. Settings for lighting focus are done by using the light handle in the middle
7. Perform periodic checks
8. After checking, press the OFF button to turn off the light unit
9. Disconnect the power cable from the power socket

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10. Keep the Operation light in place

CHAPTER 4

Troubleshooting and Maintenance

4.1 Trouble shooting

No	Problem	Solution
1	Totally Dead	<ul style="list-style-type: none">• Check the electrical connection to the power source• Check the power cable socket connection with an avometer• Check the fuse cable connection with an avometer
2	Does Not Work	<ul style="list-style-type: none">• Check whether the power light indicator is onNo• Check the normal mains voltage is not

4.2 Care And Mantanaince

- a) Buyers are not permitted to open or unpack the contents of the unit. Any maintenance or renewal must be carried out by a trained and authorized professional from PT. Sinko Prima Alloy. Maintenance must be carried out with original components from PT. Sinko Prima Alloy.
- b) Please pull out the power supply plug when the power is about to be turned off. If this unit is not used for a long period of time, please remove the power supply plug from the power source, then place this unit in a shady, cool and dry place.
- c) The unit should be maintained and cleaned regularly.

4.3 Cleaning

- a) First of all the power cable must be disconnected from the power source.
- b) Prepare a cloth dampened with clean water without other chemical cleaning agents, then rub it evenly over all parts of the unit.
- c) Use a clean, dry cloth to dry, until the entire unit is completely dry and clean

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SURGICAL LAMP LED MOL-02 (2 LAMPS 700MM + MONITORING SYSTEM)

MANUAL BOOK

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